

Patent App. SN: 10/769,554 Attorney Docket No. 21154.DIV

AMENDMENT

Please amend the Claims to read as follows:

1. (currently amended) A method of making a diamond composite heat spreader comprising the steps of:

- a) providing a first plurality of diamond particles having a first average mesh size;
- b) packing the diamond particles such that each diamond particle is substantially in diamond-diamond contact with at least one other diamond particle;
- c) providing an interstitial material, said interstitial material including Ag, Cu, Al, Si, or BNi₂; and
- d) providing a porous ceramic material prior to the step of bonding;
- e) placing the ceramic material adjacent to the packed diamond particles prior to the step of bonding; and
- f) infiltrating the interstitial material into the diamond particles in a vacuum furnace at a pressure below about 10⁻³ torr, thereby bonding the packed diamond particles by the interstitial material with the interstitial material at least partially filling any voids between the packed diamond particles.

2. (canceled)

3. (canceled)

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4. (canceled)

5. (previously presented) The method of claim 1, wherein infiltration is performed at a temperature below about 1,100° C.

6. (canceled)

7. (original) The method of claim 1, wherein the step of packing further comprises packing diamonds to over 50% by volume of the heat spreader prior to providing an interstitial material.

8. – 10. (canceled)

11. (previously presented) The method of claim 1, wherein the diamond particles contact one another sufficiently to provide a continuous diamond-to-diamond path to substantially each of the plurality of diamond particles.

12. (canceled)

13. (currently amended) The method of claim ~~12~~ 1, wherein the ceramic material comprises at least 50% by volume of a member selected from the group consisting of SiC, Si₃N₄, Al₂O₃, WC, and ZrO₂.

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14. (original) The method of claim 13, wherein the interstitial material is copper and wherein the step of bonding is performed at a pressure between about 4 GPa and about 6 GPa.

15. (original) The method of claim 1, wherein the diamond particles have a size of from about 18 mesh to about 400 mesh.

16.-19. (canceled)

20. (previously presented) The method of claim 1, wherein the interstitial material is selected from the group consisting of Al, Cu, Ag, and mixtures or alloys thereof.

21. (previously presented) The method of claim 1, wherein the interstitial material is a Si alloy of a member selected from the group consisting of Ni, Ti, Al, and Cr.

22-30. (canceled)